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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,369	12/12/2003	Motohisa Kamijo	50943-023	8713

7590 05/25/2005

McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

GRAVINI, STEPHEN MICHAEL

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,369

Applicant(s)

KAMIJO, MOTOHISA

Examiner

Stephen Gravini

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1-2- 5-6,.8-10, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda in view of Numata (Japan Pat. Abstract 2002-012406, prior art by applicant).

Takeda discloses the invention substantially as claimed. However, Takeda does not disclose a filter. Numata teaches the use of a honeycomb filter (32) for the purpose of preventing a substantial portion of any soot contained in the air or fuel or any non-gaseous particles that may be formed during the combustion of fuel from passing through the filter so as to minimize the adverse effect of soot. Numata further teaches the use of a controller for the purpose of regenerating the filter by burning the fuel in the combustor at a leaner air-fuel mixture. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the startup combustor of Takeda with a filter and a controller such as taught by Numata in order to minimize the adverse effect of soot.

Claim Objections

Claims 3-4, 7, 1 1-12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed February 28, 2005 have been fully considered but they are not persuasive.

Applicant argues that no motivation exists for combining the secondary reference with the primary reference in order to obviate the claimed invention. The motivation is considered to exist under the problem to be solved section of that reference. In this application, the claimed filter is either within the chamber, which is capable of preventing a substantial portion of any soot contained in the air or fuel or which can develop from combusting the fuel with the ignition source from passing through the filter or passing the combusted gas through a filter to collect any soot onto the filter; and when a predetermined amount of soot has collected on the filter, regenerating the filter by introducing an excess air ratio of about 1.5 to about 2.8 for a set period of time to oxidize the collected soot on the filter. The problem to be solved by secondary reference Numata includes improved reforming efficiency and reduction in size by collecting soot in a raw gas and removing it. This reforming efficiency and soot size reduction inherently performs the argued filter features because in both cases a filter is used to remove soot and regeneration occurs through the expressly disclosed reforming efficiency since the disclosed honeycomb filter allows reforming catalyst in a set period of time, as claimed. The disclosed reformed gas containing hydrogen and carbon monoxide is considered to satisfy the claimed excess ratio since stoichiometrically those elements are the appropriate ratios for excess air ratio for combustion reforming or regeneration.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

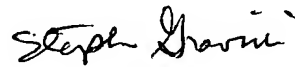
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Gravini whose telephone number is 571 272 4875. The examiner can normally be reached on normal weekday business hours (east coast time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica S. Carter can be reached on 571 272 4475. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SMG
May 23, 2005

A handwritten signature in cursive script, appearing to read "Stephen G. Gorman".